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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,173	09/24/2003	Boris Ginzburg	P-6065-US	1568
49444 7590 09/11/2007 PEARL COHEN ZEDEK LATZER, LLP 1500 BROADWAY, 12TH FLOOR NEW YORK, NY 10036			EXAMINER HANNON, CHRISTIAN A	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 09/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/668,173	<b>Applicant(s)</b> GINZBURG, BORIS	
	<b>Examiner</b> Christian A. Hannon	<b>Art Unit</b> 2618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This action is response to applicant's response filed on 6/13/2007. Claims 1-27 are now pending in the present application. **This action is made final.**

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-18 & 22-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Peng et al (US 2004/0093421), hereinafter Peng.

Regarding claims 1, 10, 22, & 25 Peng teaches a method, apparatus & system comprising estimating a number of active stations in a communication network based on a number of stations from which transmissions are received during a pre-defined time period (Page 1, [0005], Page 3, [0052-0054]), adapting a size of a contention window of a collision avoidance mechanism based on the estimated number of active stations of said communication network (Page 3, [0054]) and transmitting a signal indicating adaptation of a size of said contention window (Page 4, [0056]). Furthermore Peng teaches an algorithm for use in a processor of a communication node, WAP; therefore claim 10 reads analogous to claim 1 and is similarly rejected (Page 1, [0002]).

Regarding claim 2, Peng teaches the method of claim 1, comprising dynamically modifying the size of said contention window (Page 5, [0071]).

Regarding claim 3, Peng teaches the method of claim 1, comprising modifying a parameter used in computing the size of said contention window (Page 4, [0056]).

Regarding claim 4, Peng teaches the method of claim 3, comprising modifying a parameter indicating a minimum size of the contention window (Page 1, [0006], Page 3, [0049]).

Regarding claim 5, Peng teaches the method of claim 3, comprising modifying a parameter indicating an initial maximum size of the contention window (Page 1, [0007], Page 1, [0023]).

Regarding claim 6, Peng teaches the method of claim 3, comprising modifying a parameter indicating a non-initial maximum size of the contention window (Page 1, [0007], Page 1, [0023]).

Regarding claim 7, Peng teaches the method of claim 3, comprising modifying the size of the contention window in relation to an estimated probability of collisions (Page 1, [0023]).

Regarding claim 8, Peng teaches the method of claim 1, comprising sending a signal indicating a request for modification of the size of the contention window (Page 1, [0023]).

Regarding claim 9, Peng teaches the method of claim 1, comprising modifying a threshold value of a request-to-send mechanism (Page 3, [0054]).

Regarding claim 11, Peng teaches the method of claim 10, wherein the apparatus comprises a wireless modem (Page 4, [0056]).

Regarding claim 12, Peng teaches the method of claim 10, wherein the apparatus comprises a wireless access point (Page 1, [0002]).

Regarding claim 13, Peng teaches the method of claim 10, wherein the processor is to modify a parameter used in computing the contention window (Page 4, [0056]).

Regarding claim 14, Peng teaches the method of claim 13, wherein the parameter used in computing the contention window comprises a parameter indicating a minimum size of the contention window (Page 1, [0006], Page 3, [0049]).

Regarding claim 15, Peng teaches the method of claim 13, wherein the parameter used in computing the contention window comprises a parameter indicating an initial maximum size of the contention window (Page 1, [0007], Page 1, [0023]).

Regarding claim 16, Peng teaches the method of claim 13, wherein the parameter used in computing the contention window comprises a parameter indicating a non-initial maximum size of the contention window (Page 1, [0007], Page 1, [0023]).

Regarding claim 17, Peng teaches the method of claim 10, wherein the processor is to adapt the size of said contention window based on an estimated probability of collisions (Page 1, [0023]).

Regarding claim 18, Peng teaches the apparatus of claim 10, wherein the processor is to modify a threshold value of a request-to-send mechanism (Page 3, [0054]).

Regarding claim 23, Peng teaches the apparatus of claim 22, wherein the signal comprises a signal indicating modification of a parameter used in computing the contention window (Page 1, [0006], Page 3, [0049]).

Regarding claim 24, Peng teaches the apparatus of claim 22, wherein the signal comprises a signal indicating modification of a threshold value of a request-to-send mechanism (Page 3, [0054]).

Regarding claim 26, Peng teaches claim 25, wherein the instructions result in dynamically modifying the size of said contention window (Page 5, [0071]).

Regarding claim 27, Peng teaches claim 25, wherein the instructions result in modifying a threshold value of a request-to-send mechanism (Page 3, [0054]).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peng in view of Guo et al (US 2004/0170150), hereinafter Guo.

Regarding claim 19, Peng teaches a wireless communication device comprising a processor to estimate a number of active stations in a communication network based on a number of stations from which transmissions are received during a predefined time period (Page 1, [0005], Page 3, [0052-0054]; Peng) to adapt a size of a contention

window of a collision avoidance mechanism based on an estimated number of active stations of a communication network (Page 3, [0054]; Peng) and to transmit a signal indicating adaptation of a size of said contention window (Page 1, [0002]; Peng). Peng fails to explicitly teach a dipole antenna, although it is obvious to one of ordinary skill in the art that a wireless device requires an antenna. Guo teaches a dipole antenna (Figure 2, Item 202; Guo). Therefore it would be obvious to outfit the wireless device of Peng with a dipole antenna, as taught by Guo, in order to provide a widely known cost effective antenna solution to the wireless node.

Regarding claim 20, Peng and Guo teach the device of claim 19, furthermore Peng teaches wherein the processor is to dynamically modify a parameter used in computing the contention window (Page 4, [0056]).

Regarding claim 21, Peng and Guo teach the device of claim 19, furthermore Peng teaches wherein the processor is to dynamically modify a threshold value of a request-to-send mechanism (Page 3, [0054], Page 5, [0071]).

### ***Response to Arguments***

5. Applicant's arguments filed 6/13/2007 have been fully considered but they are not persuasive. Regarding claims 1, 10, 22 & 25 the applicant contends that Peng fails to teach or suggest estimating a number of active stations in a network based on a number of stations from which transmissions are received during a predefined time period. However Peng teaches a k-DCF protocol that is operable to adapt a size of a contention window based on the number of active nodes. Peng outlines this desirable

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outcome and then shows how through use of the novel parameter 'k' this can be achieved (Page 3, [0053] & [0054]; Peng). As Peng states his k-DCF protocol achieves self-adapting contention windows according to the network load, that is the number of active nodes contending for a channel. While Peng may not be directly estimating the number of active nodes, the reference is no doubt indirectly assessing the channel based on busy time length and idle time length of the channel (Page 3, [0053-0054]; Peng). The examiner wishes to express to the applicant that direct estimating or indirect estimating are both, as the current claim language reads, estimating. In response to the applicants arguments that "Peng is absent any teaching of how N is determined" the examiner refers to Peng in that the value of N is used in determining an optimized initial value of the k parameter. That is that the value of N is left silent as it would be of the system designers choice at the point the network was created to specify N, and the value is merely used as an initial starting point for the  $k_{opt}$  value. As the examiner has previously stated the reference has been used to teach estimating a number of active stations as an indirect estimation of the volume of traffic on a network that is the current claim language does not require a specific numeric value of active stations transmitting, but merely a vague estimate (high traffic, low traffic etc.). Similarly then it follows that in response to applicants claim that since k is used to modify the contention window the Peng reference doesn't teach modifying it through the estimation of number of active stations, the examiner disagrees. The examiner maintains that the k value is in fact indicative of an estimate of active nodes and therefore varying the contention window based on this estimate, value k, Peng does in fact teach the claim



limitation. Lastly, in response to the applicant's remarks that the Guo reference fails to ameliorate the Peng 'deficiencies' the examiner maintains that the Guo reference need not do so as the Peng reference affirmatively reads on the recited current claim language. For the reasons state herein the examiner maintains the rejections on claims 1-27.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

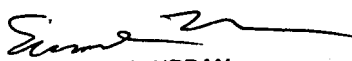
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



C. A. Hannon  
August 27, 2007



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